

MERCER

Investment Consulting

December 17, 2004

Total Fund Review – Third Quarter Board Meeting

Arizona State Retirement System

Terry A. Dennison

Los Angeles



Marsh & McLennan Companies

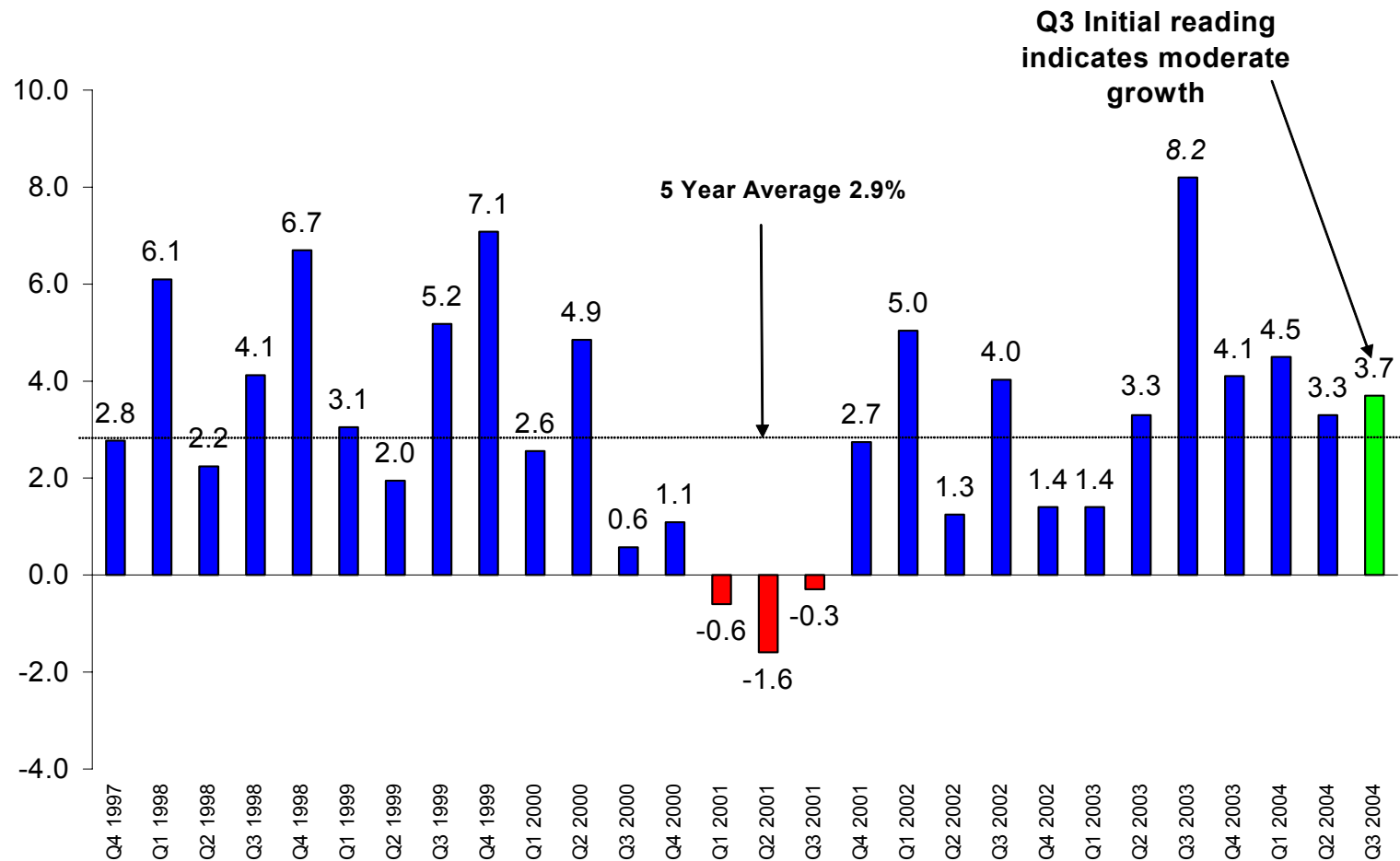


Economic Environment

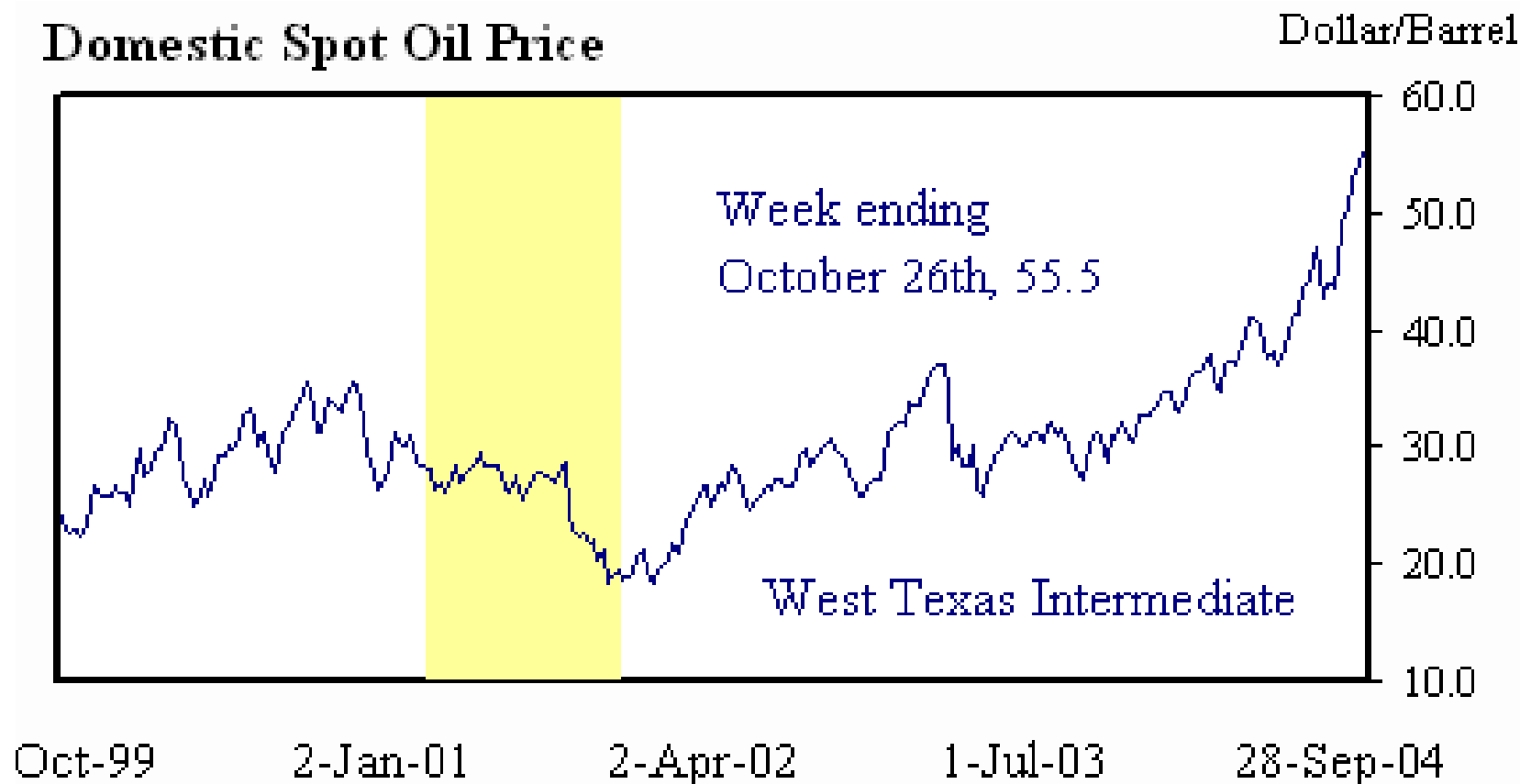
Economic Growth Is Moderate, but The Run-Up In Oil Prices Fuels Fears of a Slowdown

- The Commerce Department's 3.7% estimate of Q3 GDP growth fell short of expectations but was above the 5-year average
- Crude oil prices approached \$50 per barrel at quarter-end due to a variety of factors including rising worldwide demand, frequent attacks on oil pipelines, and distribution disruptions caused by hurricanes in the Caribbean and southern U.S.
- Inflation fears were tempered by a slowdown in employment growth, a low Q3 inflation estimate, and lower economic growth expectations, but...
- Inflation should creep upward over the coming months as the recent spike in oil prices works its way through the system, while the trade and budget deficits loom as inflationary forces for the longer term

GDP Shows Five Consecutive Quarters At or Above 5-Year Average

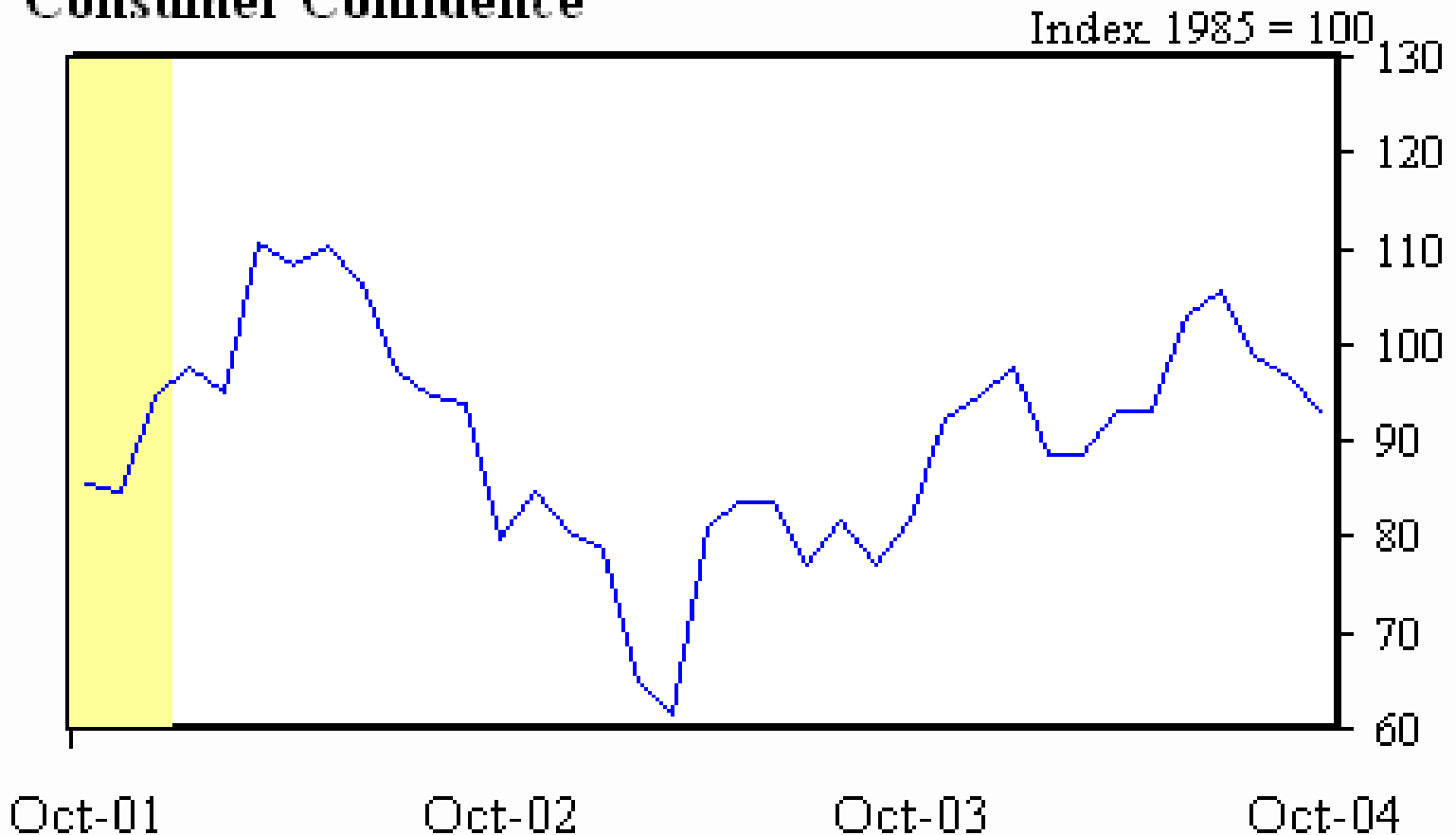


Crude Oil Prices Spiked During the Third Quarter And Topped \$55 Per Barrel by Late October



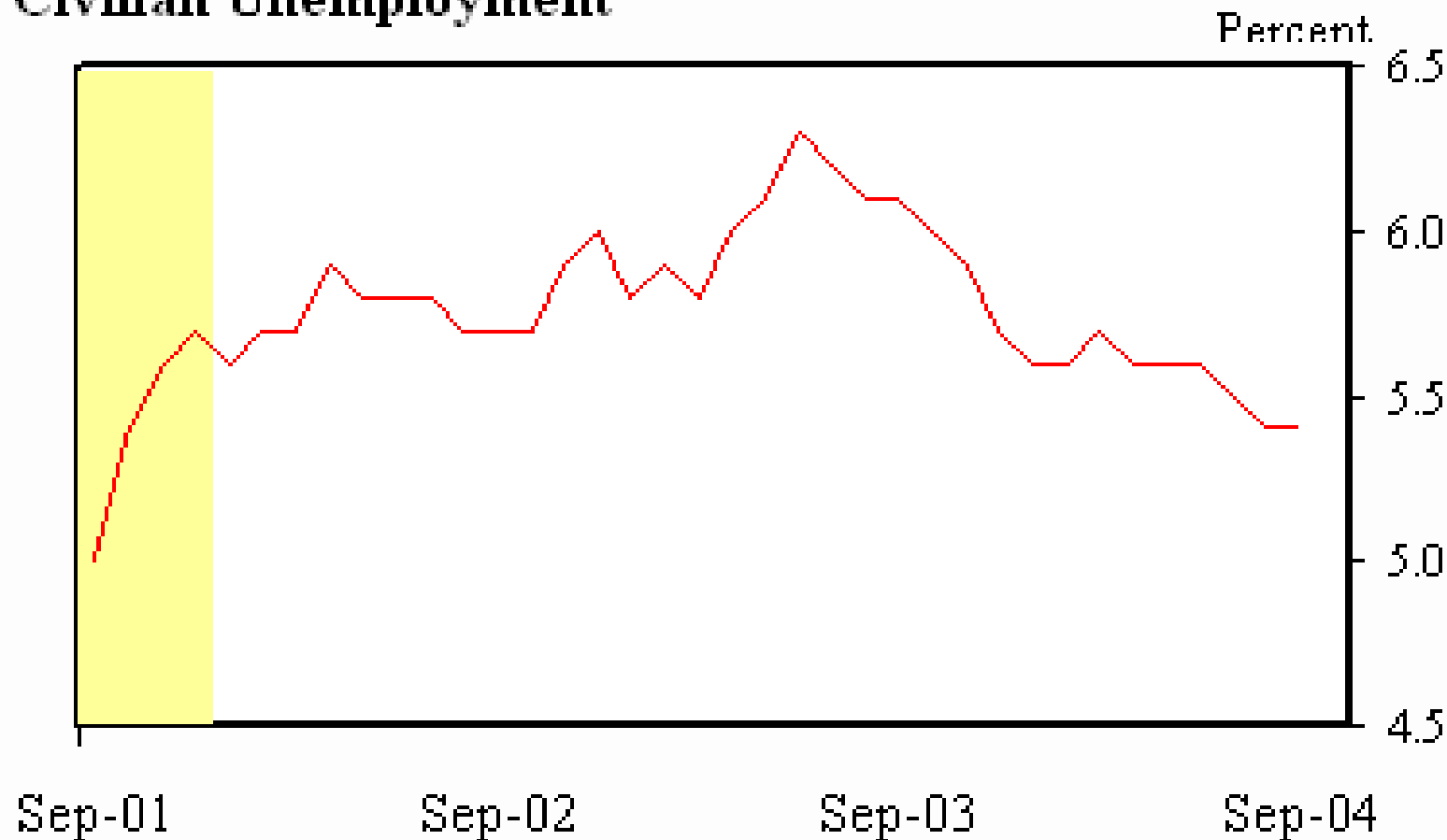
Consumer Confidence Fell for Three Months in A Row During Q3, Due in Large Part to Rising Energy Prices

Consumer Confidence

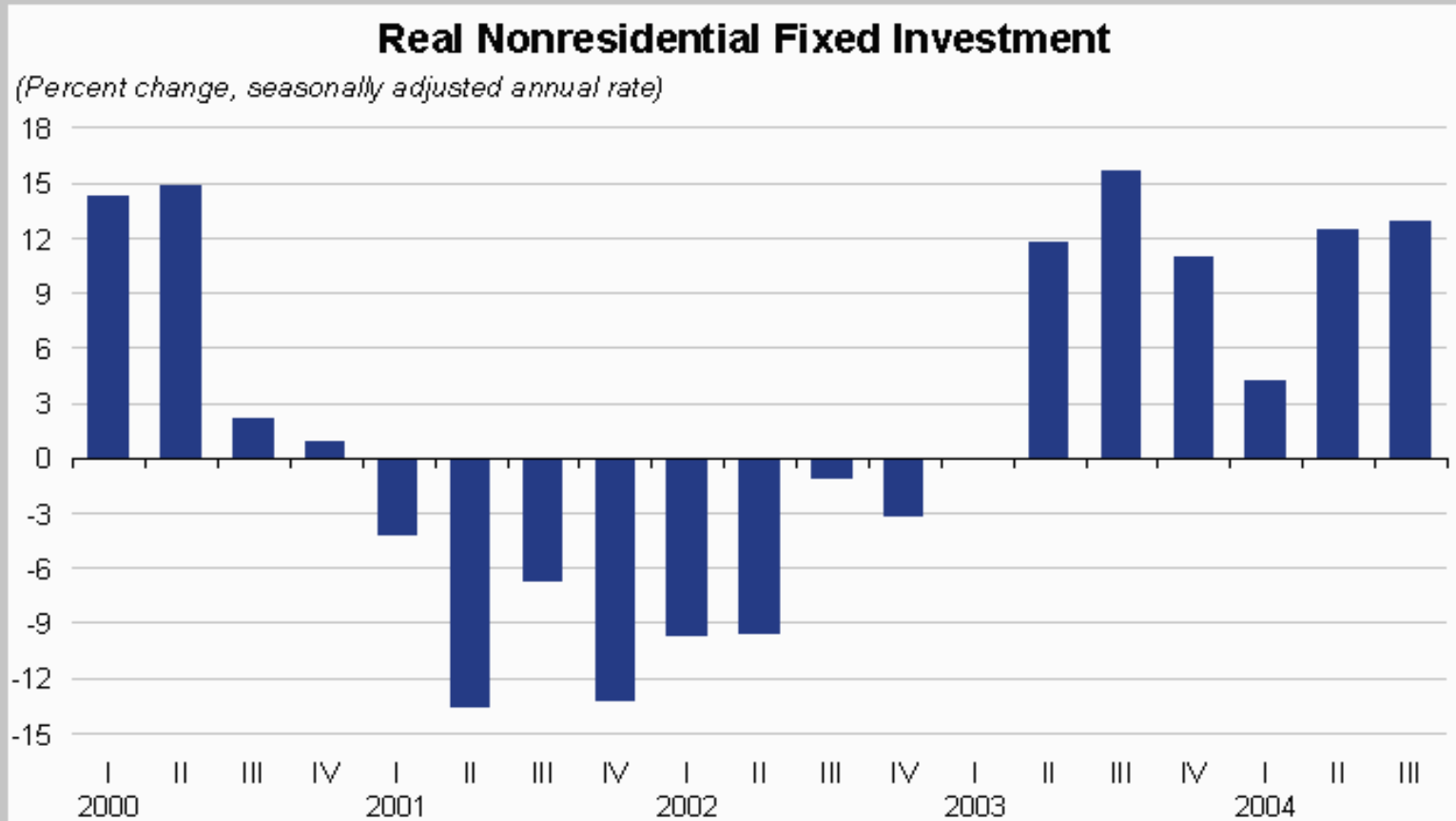


The Civilian Unemployment Rate Flattened Out At 5.4%, After Having Declined in Recent Months

Civilian Unemployment

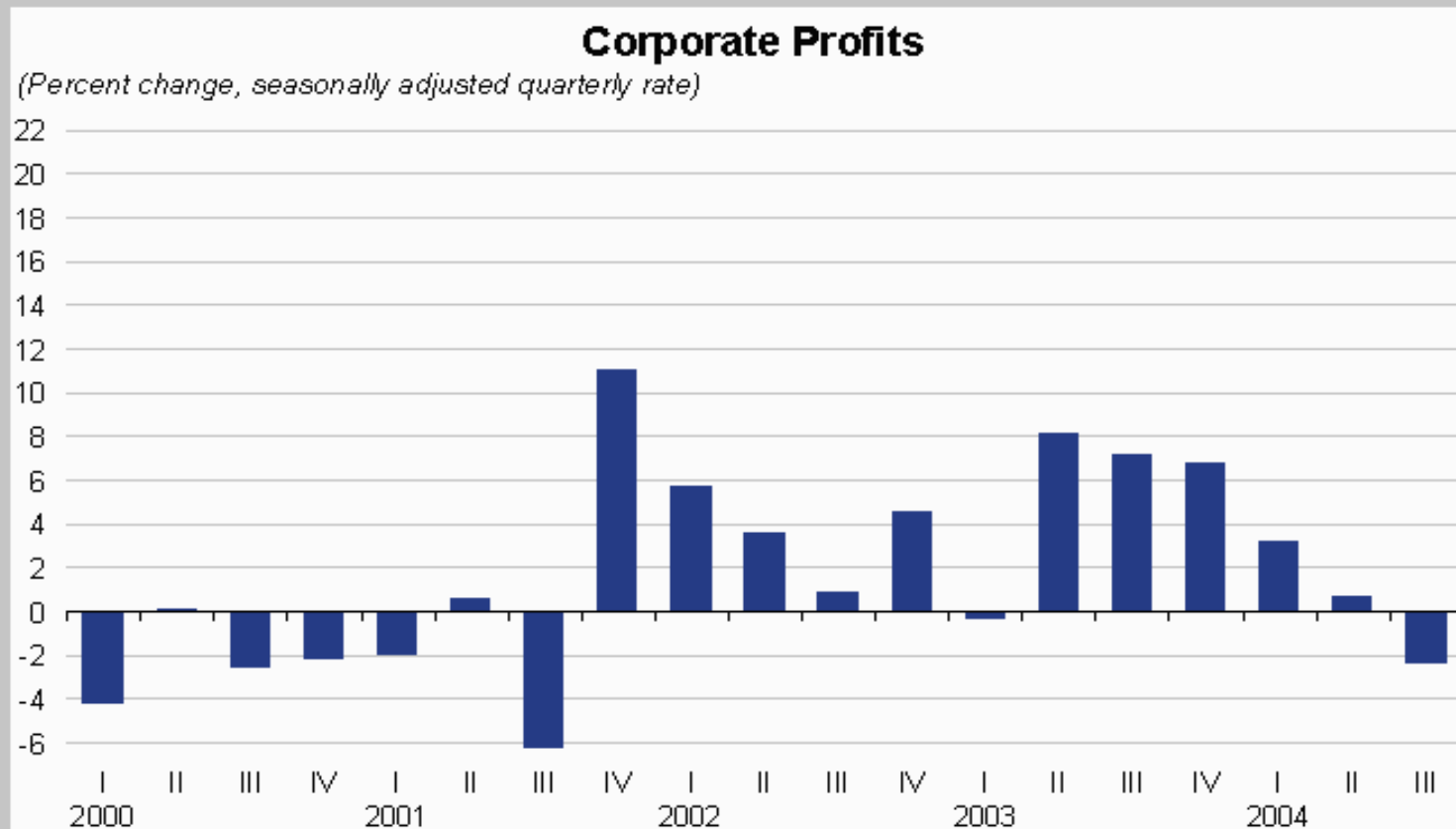


Business Investment Continues to Show Steady Improvement After Nine Down Quarters



U.S. Bureau of Economic Analysis

Corporate Profits Slipped during the Quarter



U.S. Bureau of Economic Analysis

Inflation: Low, but Should Rise

- Inflation is down substantially from earlier in the year. The quarterly inflation rates since the beginning of the year have been 1.7% (1Q), 1.2% (2Q), and 0.2% (3Q)
- Inflation expectations as measured by the difference between real and nominal bonds have declined
 - The breakeven inflation rate for the 10-year bond has edged down from 2.7% to 2.4% in the last few months
- However, inflation should move upward over the next few months as the recent spike in oil to \$55/barrel works its way through the system

The Fed: An End To Tightening?

- The Federal Reserve raised short-term interest rates by another 25 basis points again on November 10; but it is expected they will slow down the pace and possibly end tightening early next year
- Economic growth and inflation have not been robust enough to warrant aggressive rate hikes
- We expect another 75 basis points or more by mid-2005
- The 10-year should rise another 75 basis points, while the 30-year will rise about 25 basis points

Why Are Long Interest Rates So Low?

- One enormous surprise since June has been the rapid decline in long interest rates. After rising briefly a month ago, the 10-year Treasury has dropped about 90 basis points
 - At the same time, the Fed has been raising interest rates at the short end, so we've seen a noticeable flattening of the yield curve, which is normally a very bearish indicator
- Our opinion is that we saw a simultaneous change in inflation expectations (lower by 30 basis points) with a lowering of growth expectations from about 4.5% growth to 3.5% growth
 - The Fed monetary policy is to stay the course and raise rates by 75 basis points into mid-next year
- Also, corporate spreads have tightened considerably over the past year. Corporate America has much stronger balance sheets and needed to borrow a lot of money



Securities Markets

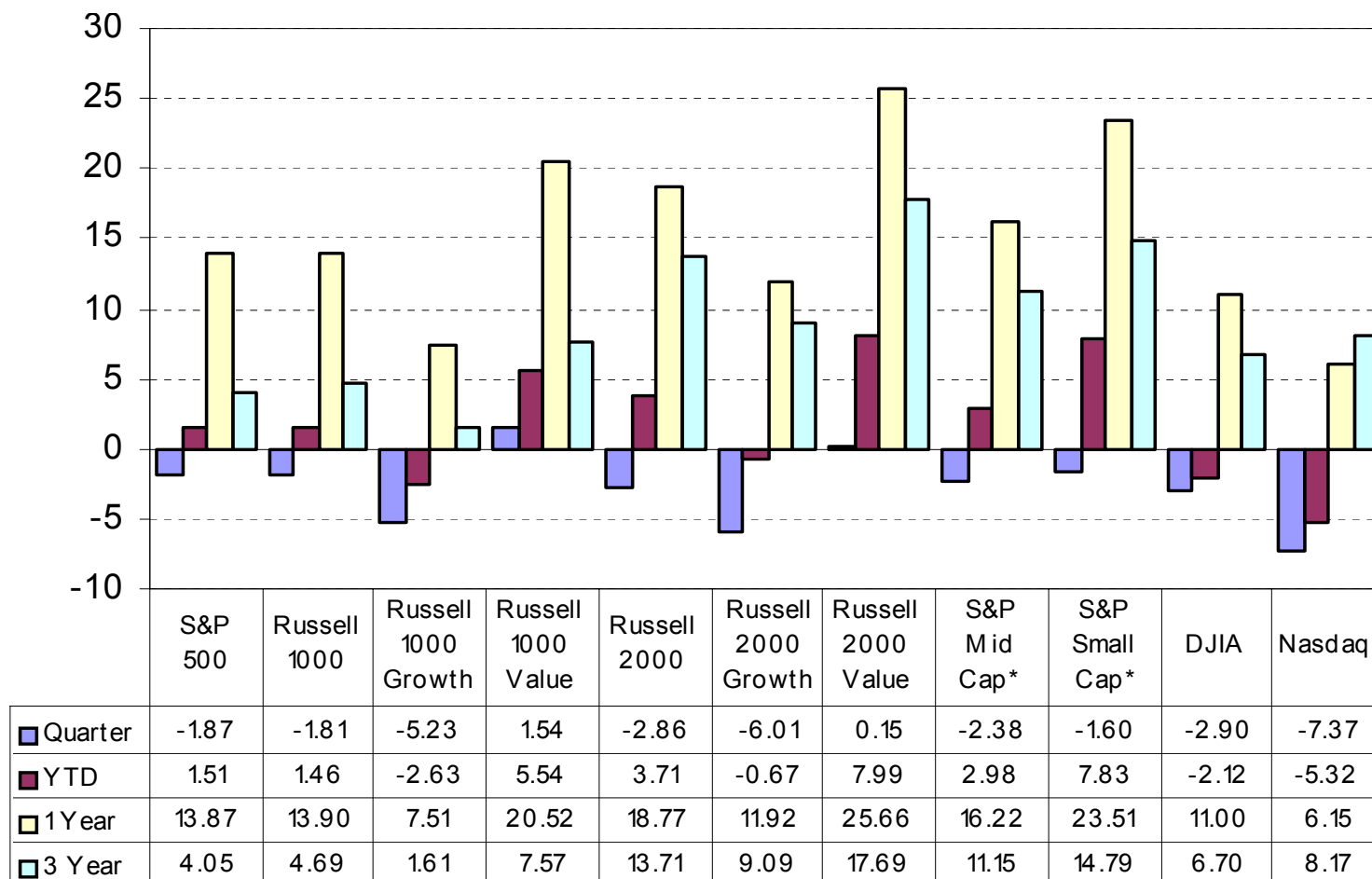
US Equity Markets

Large Cap Stocks Outpace Small Caps

- Equities declined significantly in July, were near flat in August, and posted solid gains in September
- All capitalization segments of the market finished the quarter in negative territory, as large cap stocks outpaced small caps
- Value stocks outperformed growth stocks by wide margins across the entire capitalization spectrum during the third quarter
- Sector strength came from the energy stocks once again this quarter, on strong earnings and higher crude oil prices
- Despite a strong rebound in September, technology was the weakest-performing sector, as corporations remain reluctant to resume spending heavily on information technology
- Consumer stocks lagged, as rising energy prices and high levels of consumer debt may have an impact on discretionary spending

US Equity Markets

Index Performance



Positive Returns for Value

- Returns are negative for core and growth
- Small cap growth was the worst performer for the quarter

3Q04 Returns	Value	Core	Growth
Large	1.54	-1.80	-5.23
Mid	1.71	-0.86	-4.34
Small	0.17	-2.84	-6.01
Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Total, Growth			

One-Year Returns Are Excellent

- One-year returns are very attractive but down from where we were one quarter ago
- Value is the place to be

1-Year Returns	Value	Core	Growth
Large	20.52	13.90	7.51
Mid	25.60	20.52	13.67
Small	25.68	18.77	11.91

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Total, Growth

Three-Year Results Are All Positive

- Returns are below long-term expectations except for mid and small value and core
- Value is superior to other styles

3-Year Returns	Value	Core	Growth
Large	7.57	4.68	1.61
Mid	15.06	13.33	10.09
Small	17.70	13.71	9.09

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Total, Growth

Cumulative Three-Year Results Are Strong

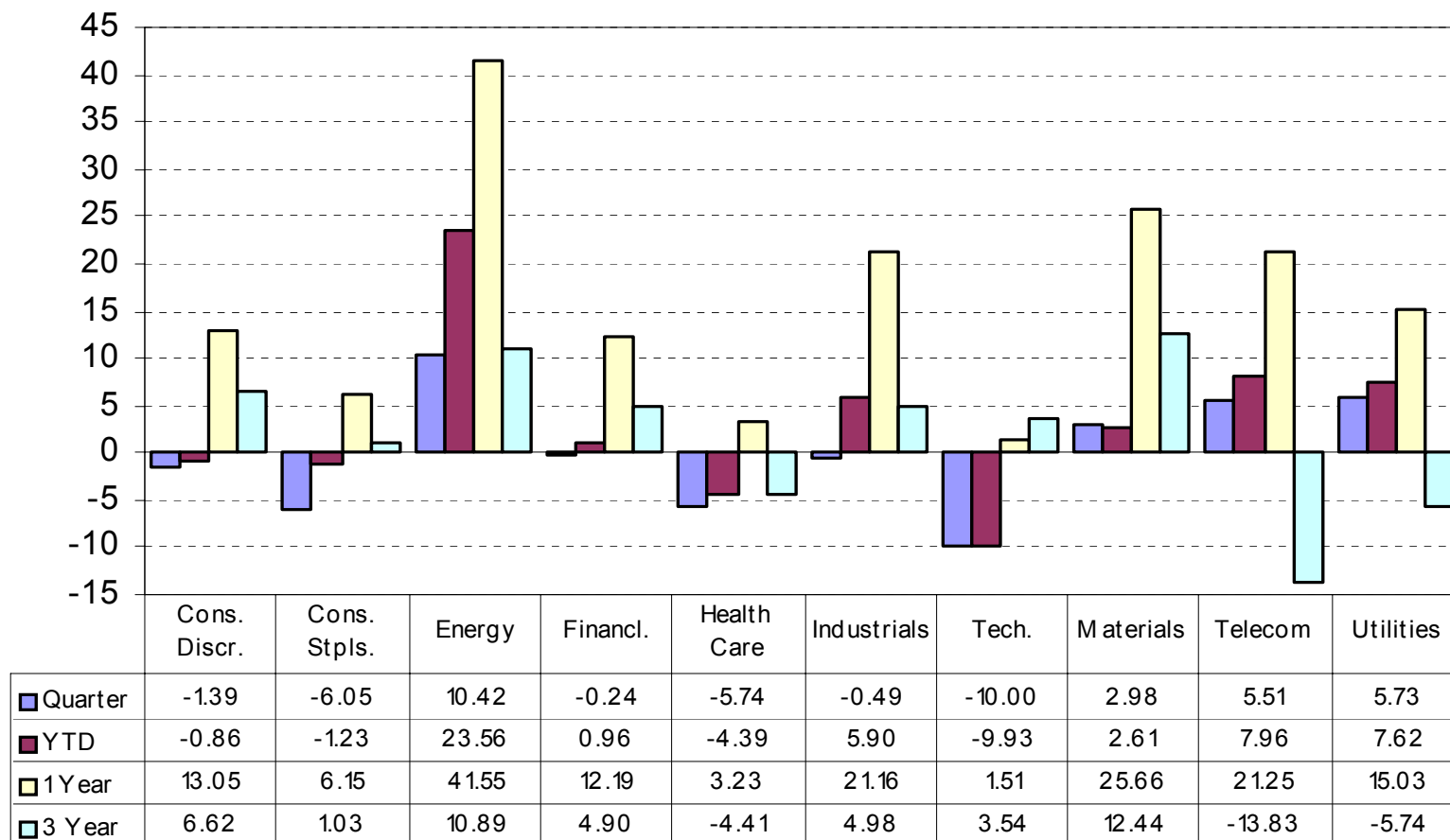
- Returns for all but large growth are excellent
- Small value stocks increased by more than 63%

Cumulative 3-Yr	Value	Core	Growth
Large	24.47	14.71	4.91
Mid	52.33	45.56	33.43
Small	63.05	47.03	29.82

Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Total, Growth

US Equity Markets

Sector Returns



US Equity Markets

Top Positive and Negative Contributors

Stock	Return (%)	End of Quarter Weight	Rank	Stock	Return (%)	End of Quarter Weight	Rank
EXXON MOBIL CORP	9.43%	2.74%	2	INTEL CORP	-27.17%	1.68%	12
CHEVRONTXACO CORP	15.69%	0.95%	14	CISCO SYS INC	-23.63%	1.51%	13
GENERAL ELEC CO	4.26%	3.24%	1	MERCK & CO INC	-29.73%	1.00%	26
VERIZON COMMUNICATIONS	9.88%	0.95%	15	PFIZER INC	-10.24%	2.45%	4
HOME DEPOT INC	11.61%	0.73%	20	COCA COLA CO	-20.17%	1.16%	17
UNITEDHEALTH GROUP INC	18.46%	0.36%	53	CARDINAL HEALTH INC	-37.47%	0.28%	124
SBC COMMUNICATIONS INC	8.30%	0.76%	21	LILLY ELI & CO	-13.60%	0.75%	28
BANK OF AMERICA CORPORATION	3.47%	1.63%	8	CITIGROUP INC	-4.26%	2.28%	5
WELLS FARGO & CO NEW	5.03%	0.92%	16	MICROSOFT CORP	-2.91%	2.94%	3
CONOCOPHILLIPS	9.16%	0.50%	41	PEPSICO INC	-9.28%	0.87%	24
DOW CHEM CO	11.83%	0.36%	56	AMERICAN INTL GROUP INC	-4.51%	1.76%	7
QUALCOMM INC	7.18%	0.56%	31	3M CO	-10.75%	0.67%	34
MEDTRONIC INC	6.70%	0.56%	33	FEDERAL NATL MTG ASSN	-10.43%	0.65%	37
SPRINT CORP	15.09%	0.24%	78	COLGATE PALMOLIVE CO	-22.29%	0.29%	93
WACHOVIA CORP 2ND NEW	6.40%	0.55%	36	HEWLETT PACKARD CO	-10.76%	0.61%	42
SYMANTEC CORP	25.35%	0.13%	135	TIME WARNER INC	-8.19%	0.76%	25
GUIDANT CORP	18.36%	0.17%	109	BROADCOM CORP	-41.44%	0.14%	263
NEWMONT MINING CORP	17.66%	0.17%	108	DISNEY WALT CO	-11.53%	0.49%	50
OCCIDENTAL PETE CORP DEL	16.10%	0.18%	104	APPLIED MATLS INC	-15.95%	0.32%	81
US BANCORP DEL	5.73%	0.49%	43	GAP INC DEL	-23.00%	0.21%	141
ABBOTT LABS	4.56%	0.60%	29	TEXAS INSTRS INC	-11.91%	0.40%	66
AMGEN INC	4.10%	0.65%	27	TYCO INTL LTD NEW	-7.45%	0.63%	35
JOHNSON & JOHNSON	1.64%	1.57%	9	ST PAUL TRAVELERS INC	-17.91%	0.26%	101
JPMORGAN & CHASE & CO	3.35%	0.77%	23	COCA COLA ENTERPRISES INC	-34.67%	0.13%	261
DUKE ENERGY CORP	14.17%	0.18%	107	ALTRIA GROUP INC	-4.56%	0.97%	18

Utilities

Cons. Non
Durables/Services

Cap Goods

Financials

Health Care

Basic Inds

Info. Tech

Energy

Cons Durables

Transportation

Non-US Equity Markets

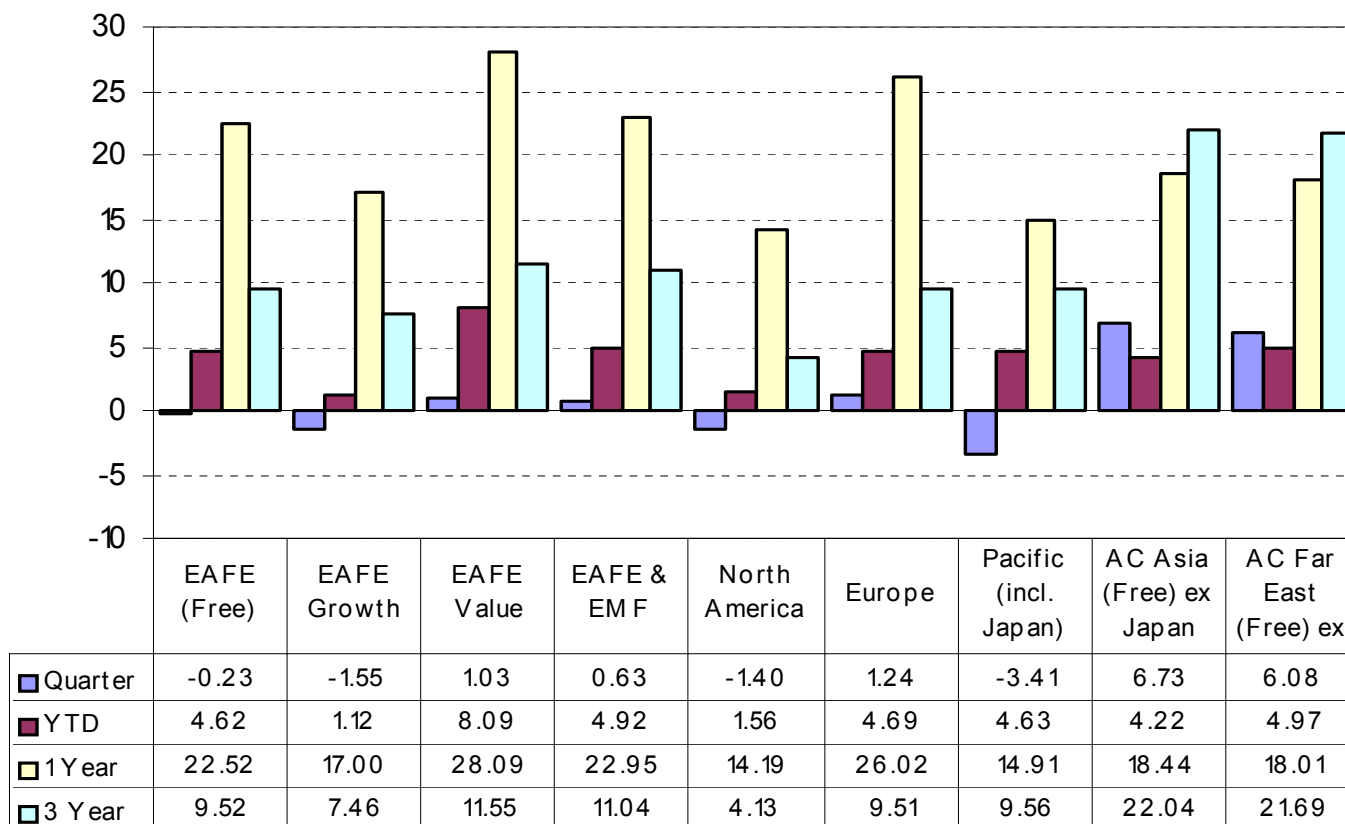
International Equities Provide a Very Small Negative Return

- The MSCI EAFE declined a modest 0.2% during the quarter, as foreign stocks continued to outpace US equities
- Europe was the best performing region, as strong GDP growth in the UK contributed to the country's return of 2.8% during the quarter
- The major economies of continental Europe lagged, as France was flat and Germany lost 1.8%, but the smaller economies of western Europe did well, with Belgium, Norway, and Sweden returning 11.2%, 12.0%, and 4.8%, respectively
- Japan suffered the largest decline among developed countries, as Q2 economic growth came in lower than expected
- Consistent with recent trends, value equities fared better than growth during the quarter

Non-US Equity Markets

EAFE Regional Performance

MSCI Regional Index Returns (US\$)

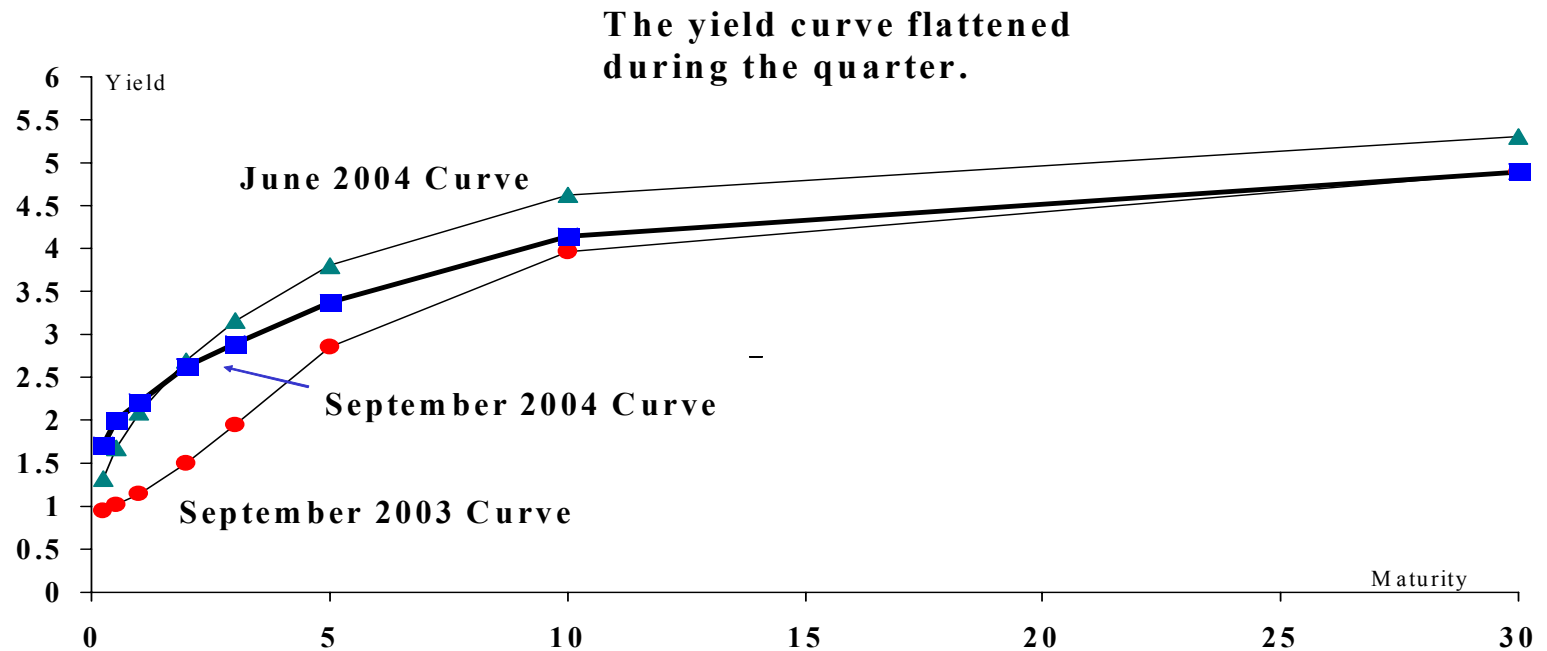


Fixed Income Markets

Bonds Provide a Very Positive Return on Falling Rates

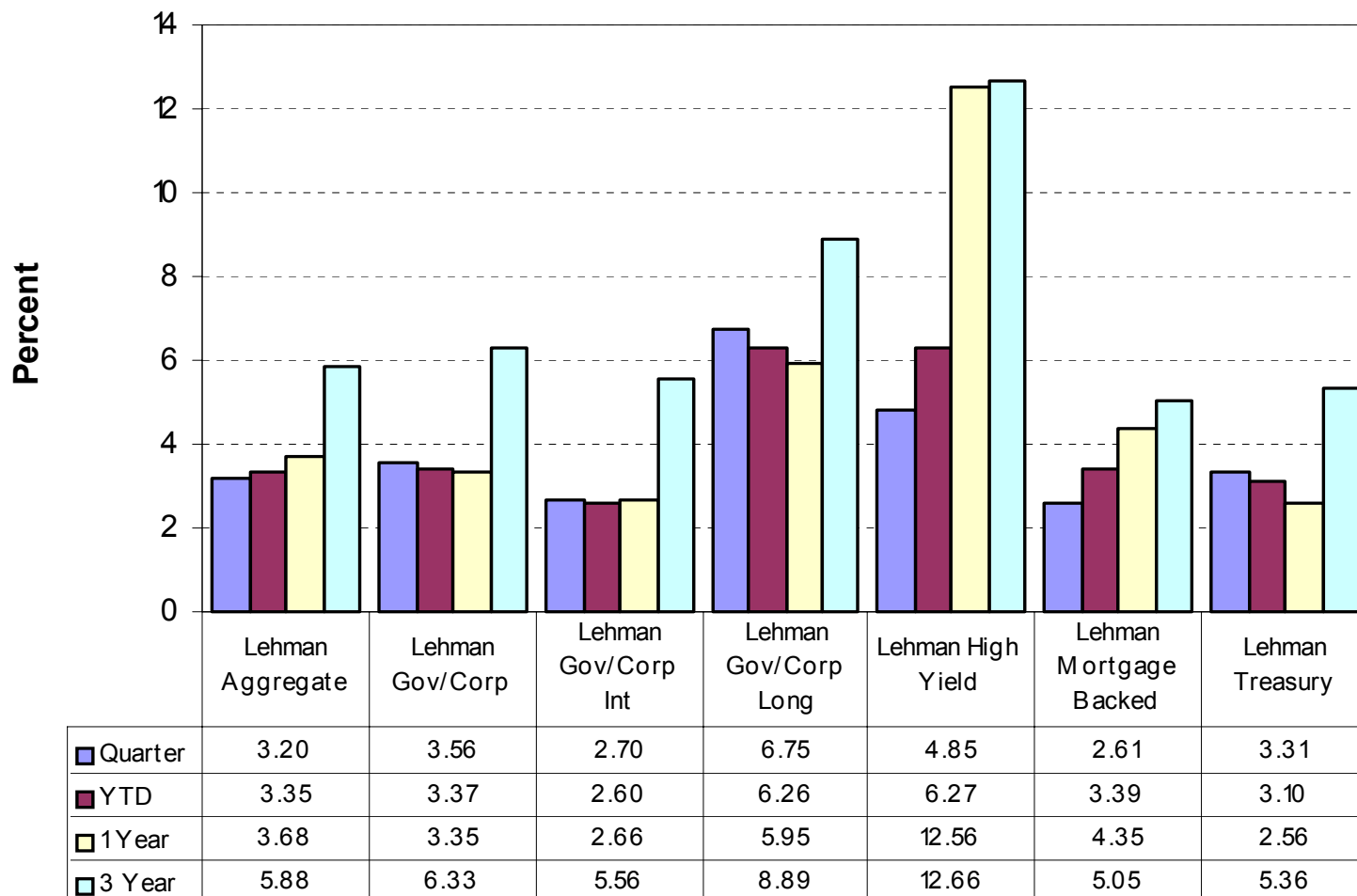
- The LB Aggregate Index gained 3.2% during the quarter, with corporate issues outpacing US Treasuries,.
- Corporate spreads remain thin relative to comparable US Treasury securities, reflecting the strength of US corporate balance sheets
- With job growth slowing and inflation coming in lower than expected, long bonds outperformed, gaining more than 6%, as the 10-year note fell to 4.12%
- Lower-quality corporate issues outperformed investment grade securities during the third quarter, as the Lehman High Yield Index rose 4.8%

Interest Rates Fell for Intermediate and Longer Yield Curve Flattened



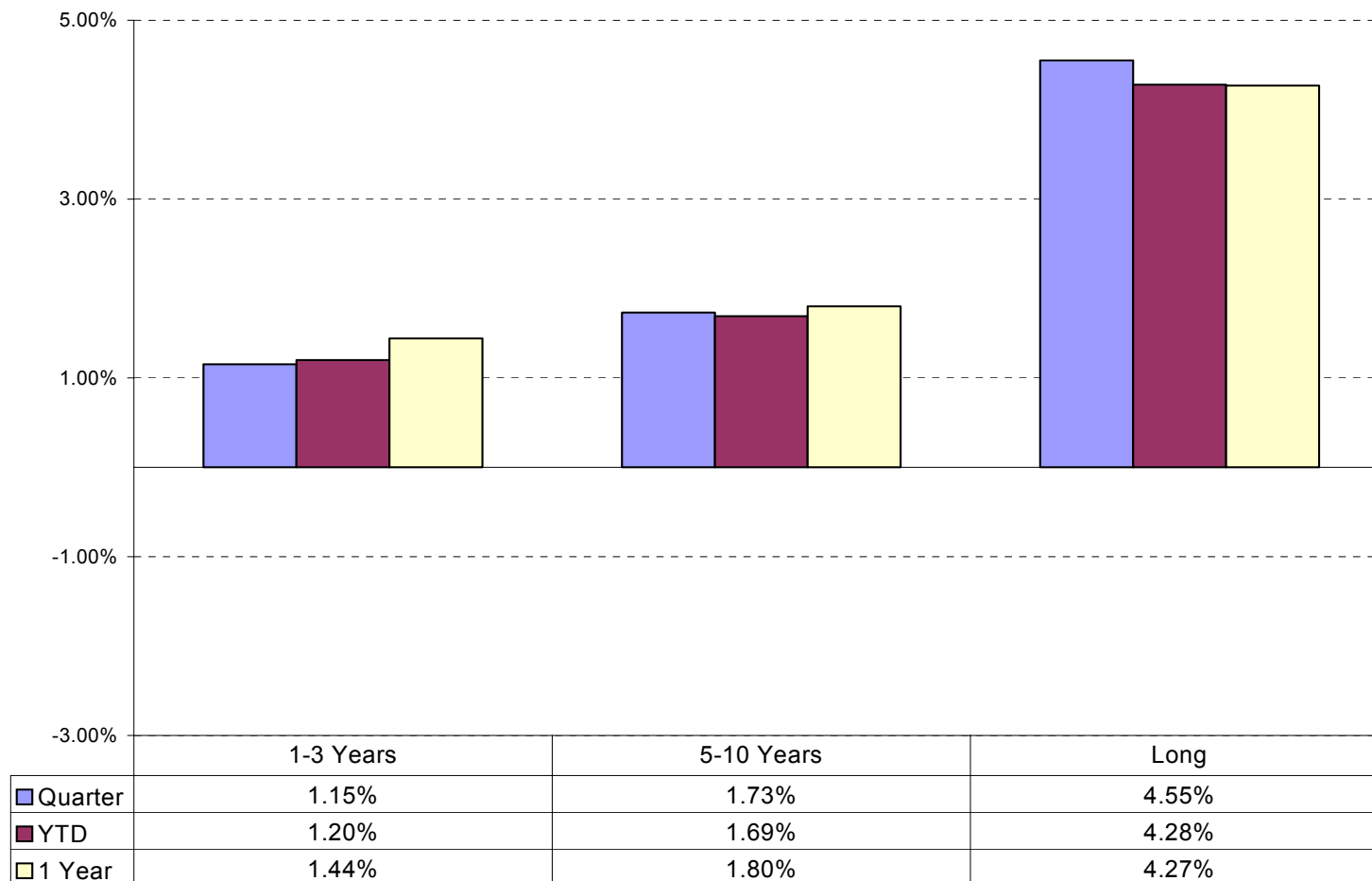
Fixed Income Markets

Index Performance



Fixed Income Markets

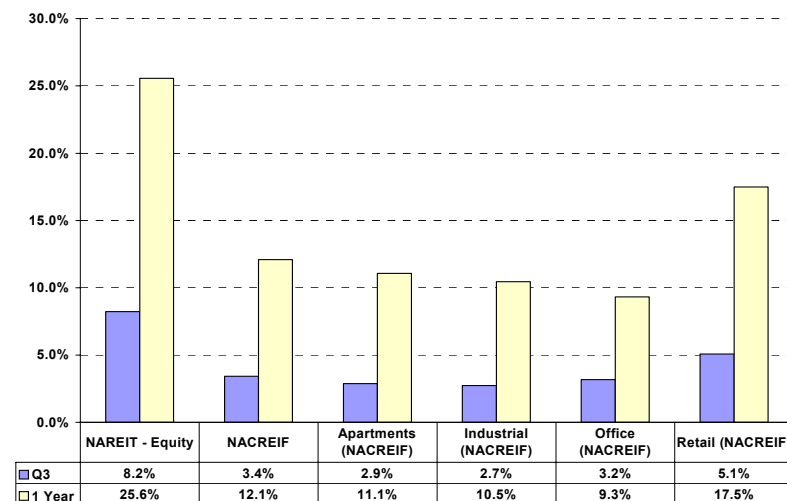
Maturity Range Performance



Real Estate

REITS Returned 8.2%; Direct Real Estate Earned 3.4%

- Real Estate Investment Trusts provided a haven from sluggish stock market returns as the NAREIT Equity Index advanced 8.2% during the third quarter and gained 14.2% year-to-date
- Direct real estate had another solid quarter with retailers continuing to outperform other segments



ASRS Total Fund Performance

Total Fund Performance

For Periods Ending September 30, 2004

	<u>Quarter</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>
Total Fund	-0.4%	13.1%	6.8%	3.0%	10.8%
Benchmark*	-0.2	12.3	5.9	1.7	9.1
R/M Public Funds Median	0.7	13.8	7.9	4.7	—
Percentile Ranking	97	76	87	97	

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.

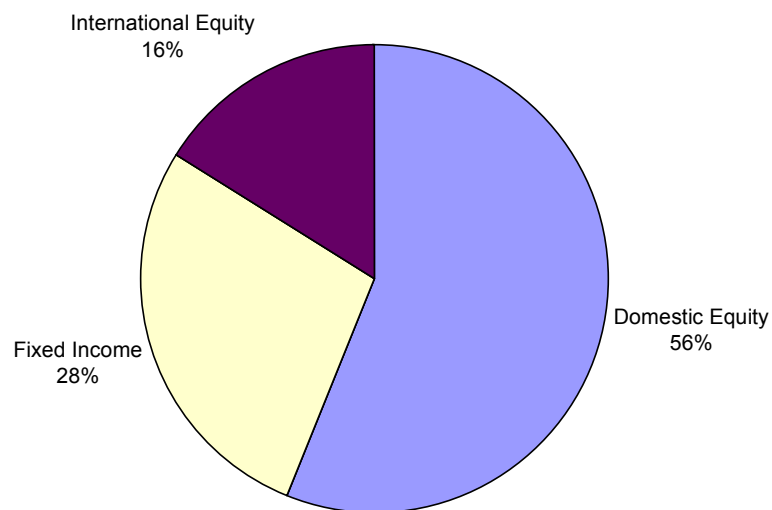
Policy History:

- 1/1/89-12/31/91 – 60% S&P 500/40% LB Aggregate
- 1/1/92-12/31/94 – 50% S&P 500/40% LB Aggregate/10% EAFE
- 1/1/95-6/30/97 – 45% S&P 500/40% LB Aggregate/15% EAFE
- 7/1/97-12/31/99 – 50% S&P 500/35% LB Aggregate/15% EAFE
- 1/1/00-9/30/03 – 53% S&P 500/30% LB Aggregate/17% EAFE
- 10/1/03-present – 53% S&P 500/26% LB Aggregate/15% EAFE/6% Custom Real Estate Benchmark.

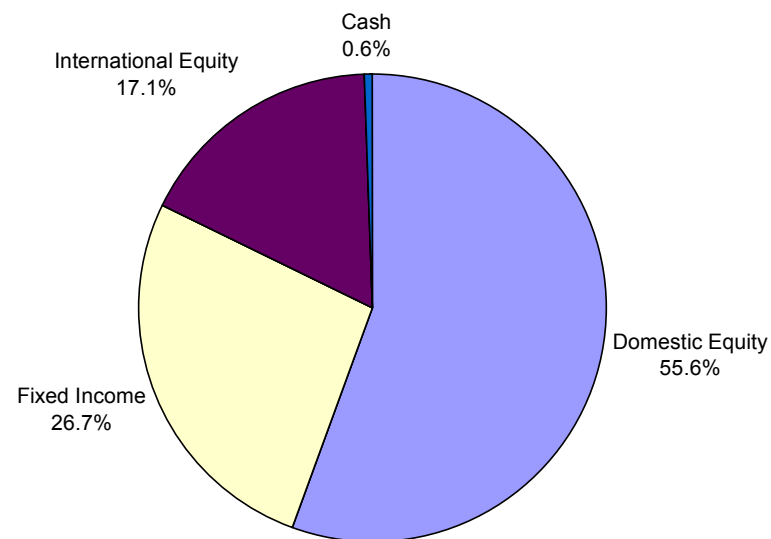
Total Fund Asset Allocation

September 30, 2004

Policy Adjusted for Transition into Real Estate



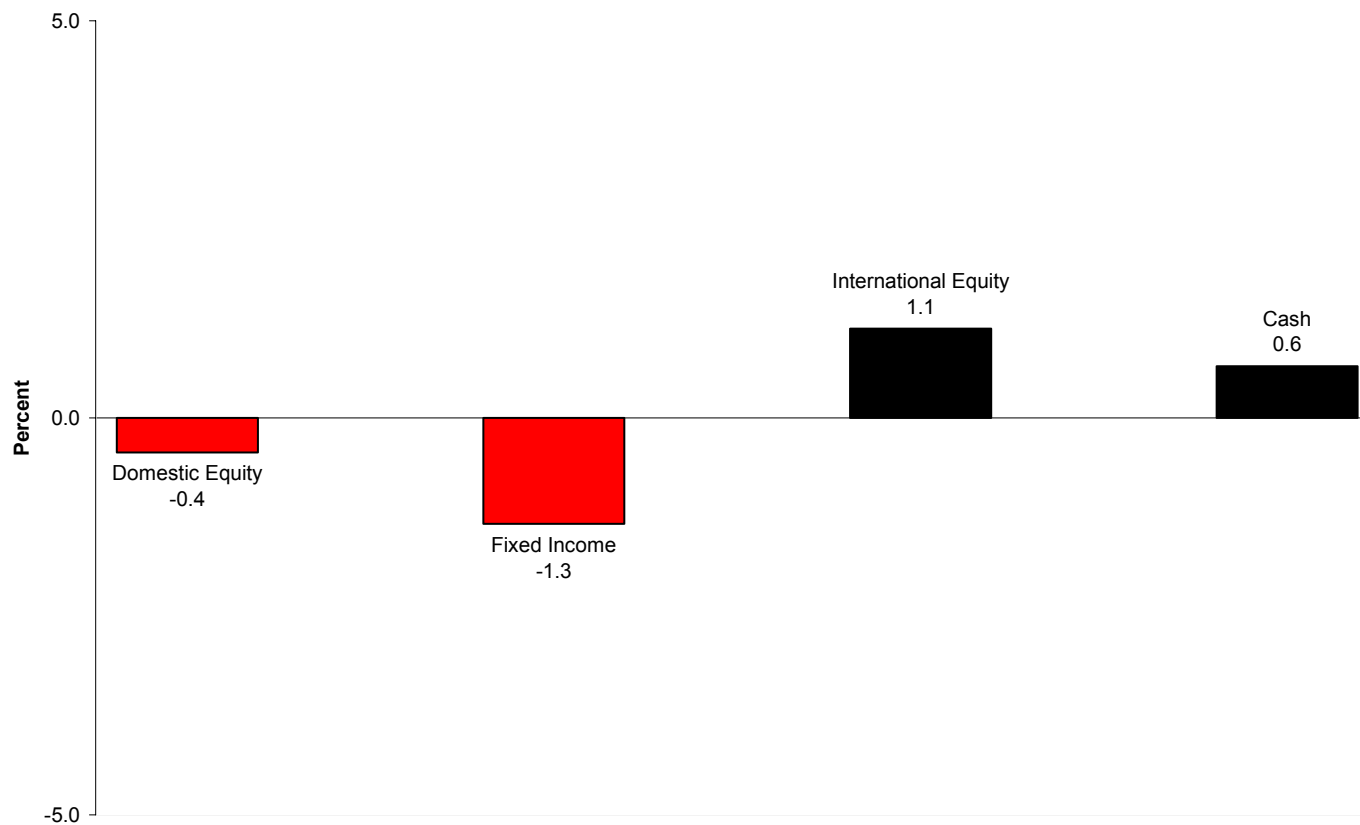
Actual Allocation



Total Fund Asset Allocation

September 30, 2004

Asset Allocation vs. Policy Adjusted for Transition into Real Estate



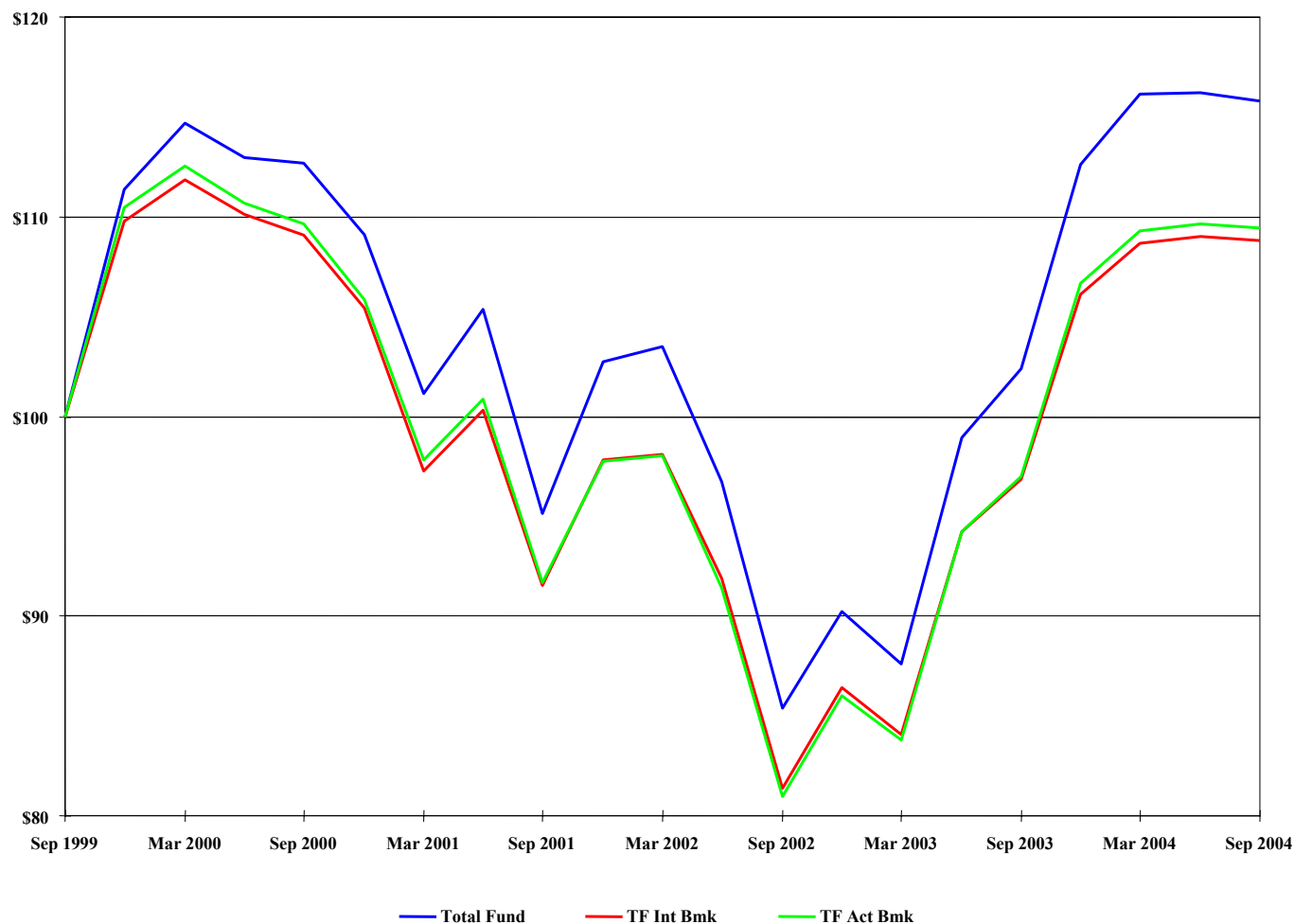
Total Fund Performance

For the Year Ending September 30, 2004

- Measured against:
 - Asset Allocation Target of 8.5% annually
 - Total Fund has outperformed by 4.6%
 - Inflation + 3.0% annually
 - Total Fund has outperformed by 7.6%
 - Actuarial assumption rate of 8.0% annually
 - Total Fund has outperformed by 5.1%

Total Fund Growth

Total Fund
Value of \$100 invested in US Balanced from Oct 1999 to Sep 2004



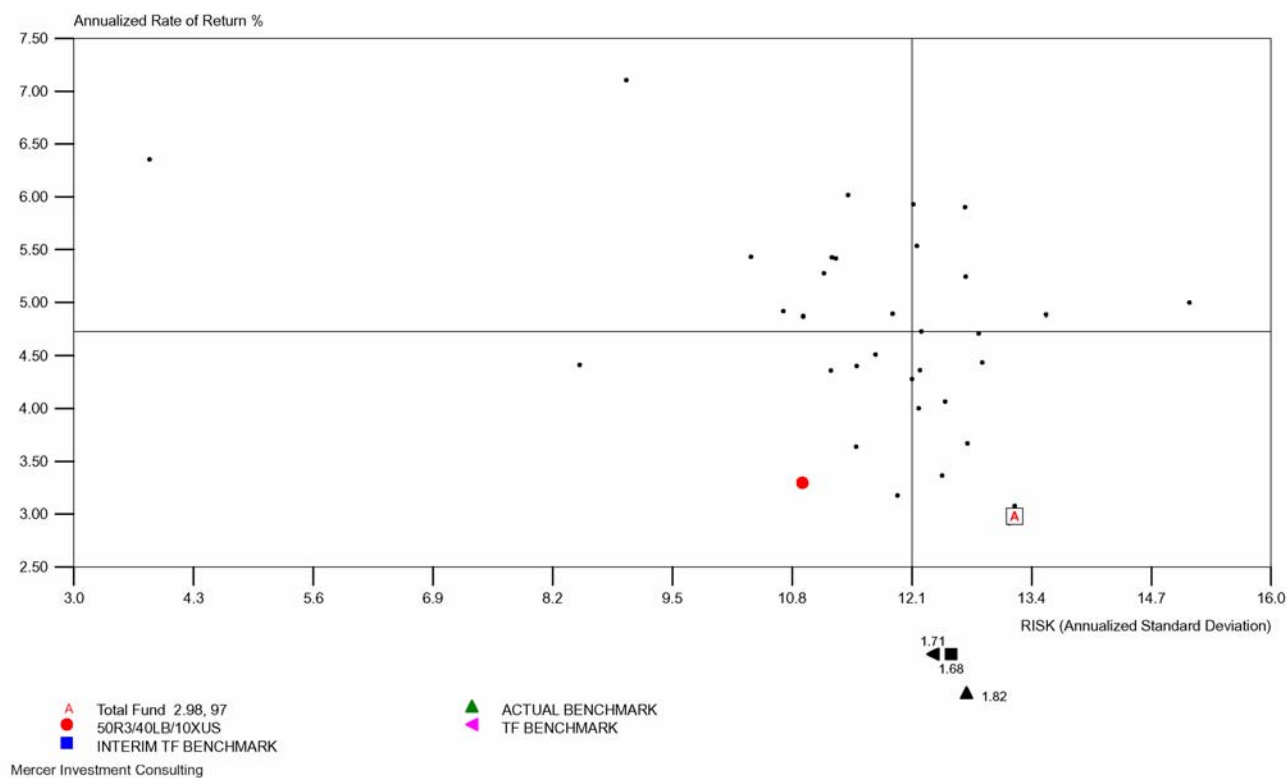
Total Fund Return/Risk Analysis

Total Funds Billion Dollar - Public

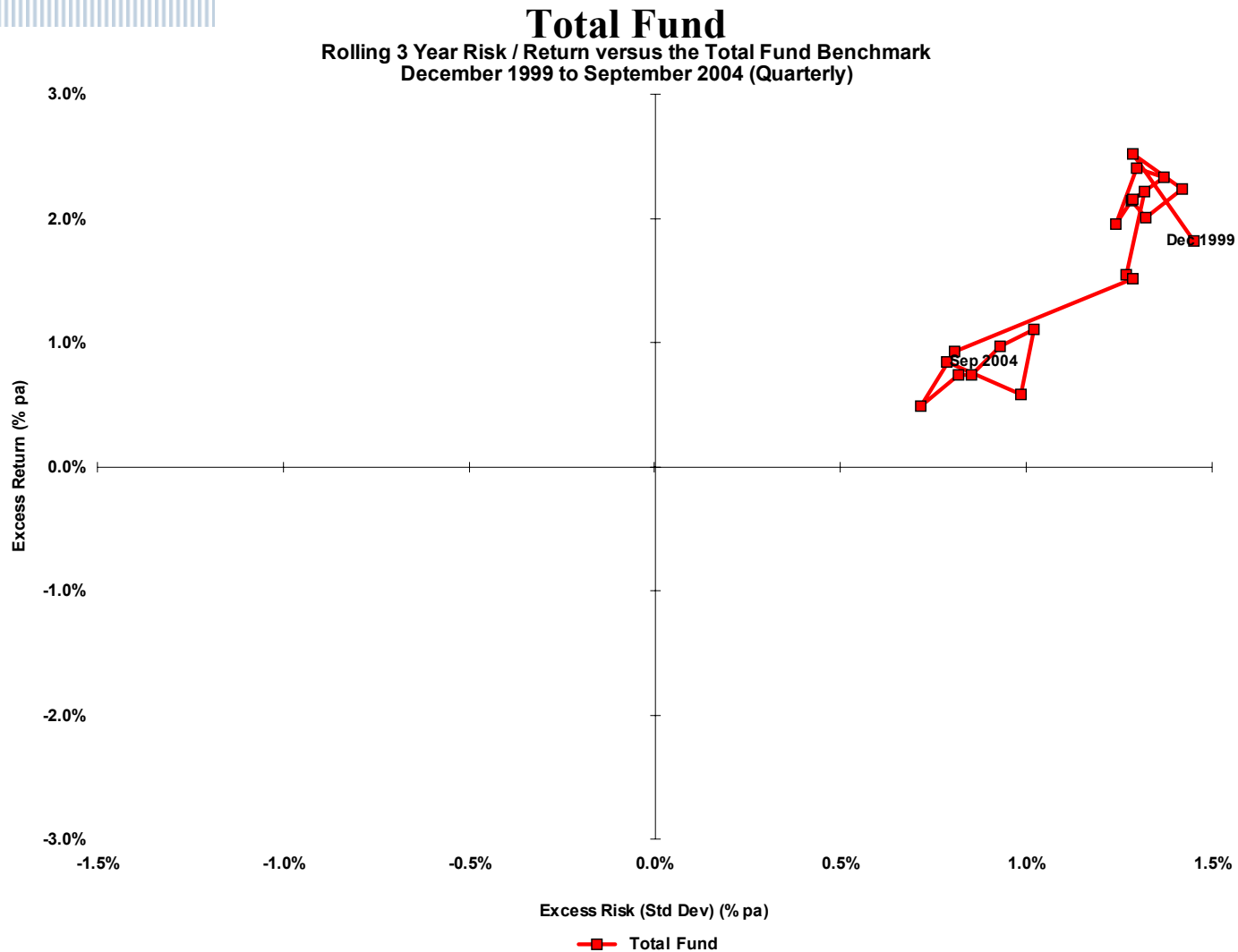
Risk-Return Comparisons

5 Years Ending September 30, 2004

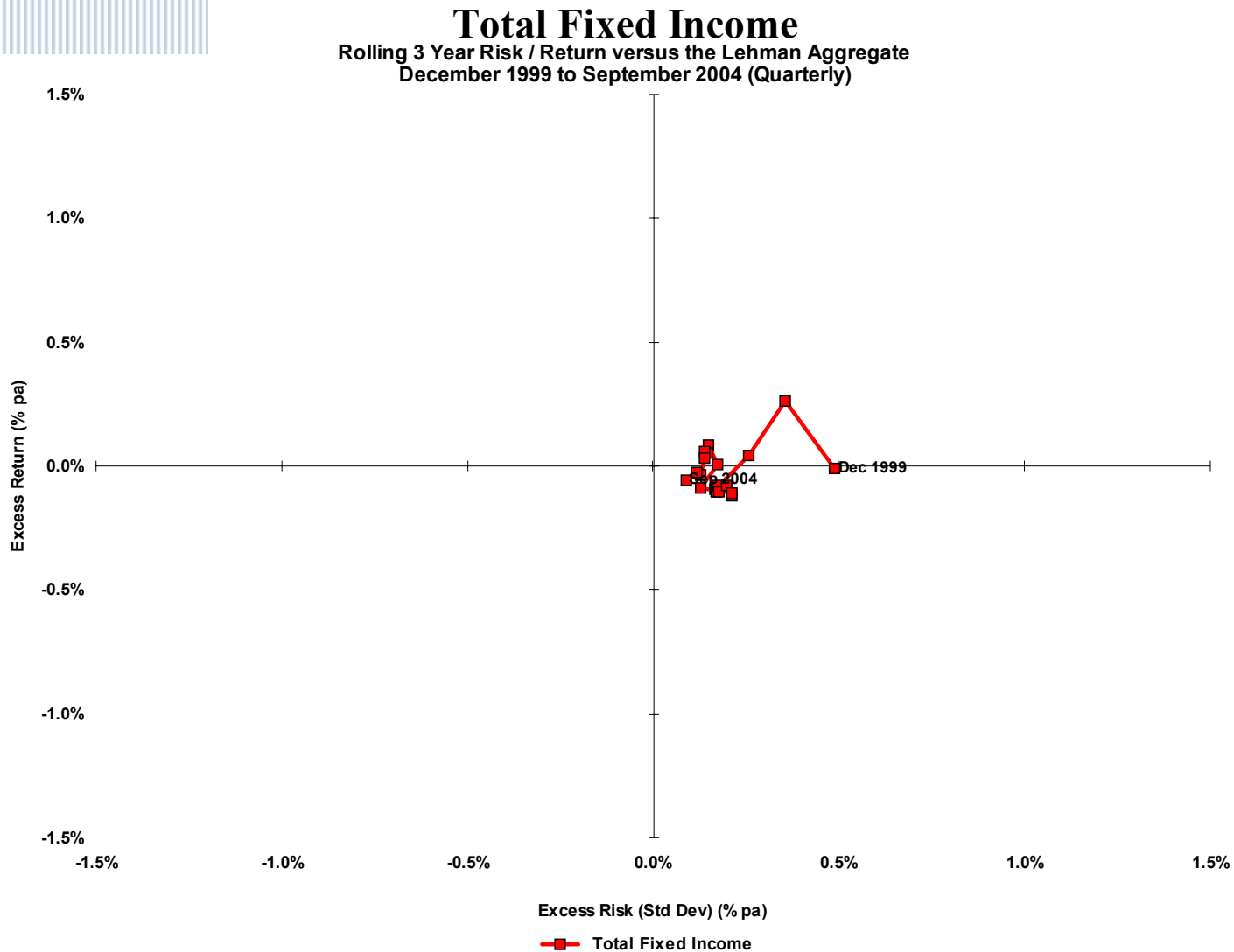
33 Portfolios



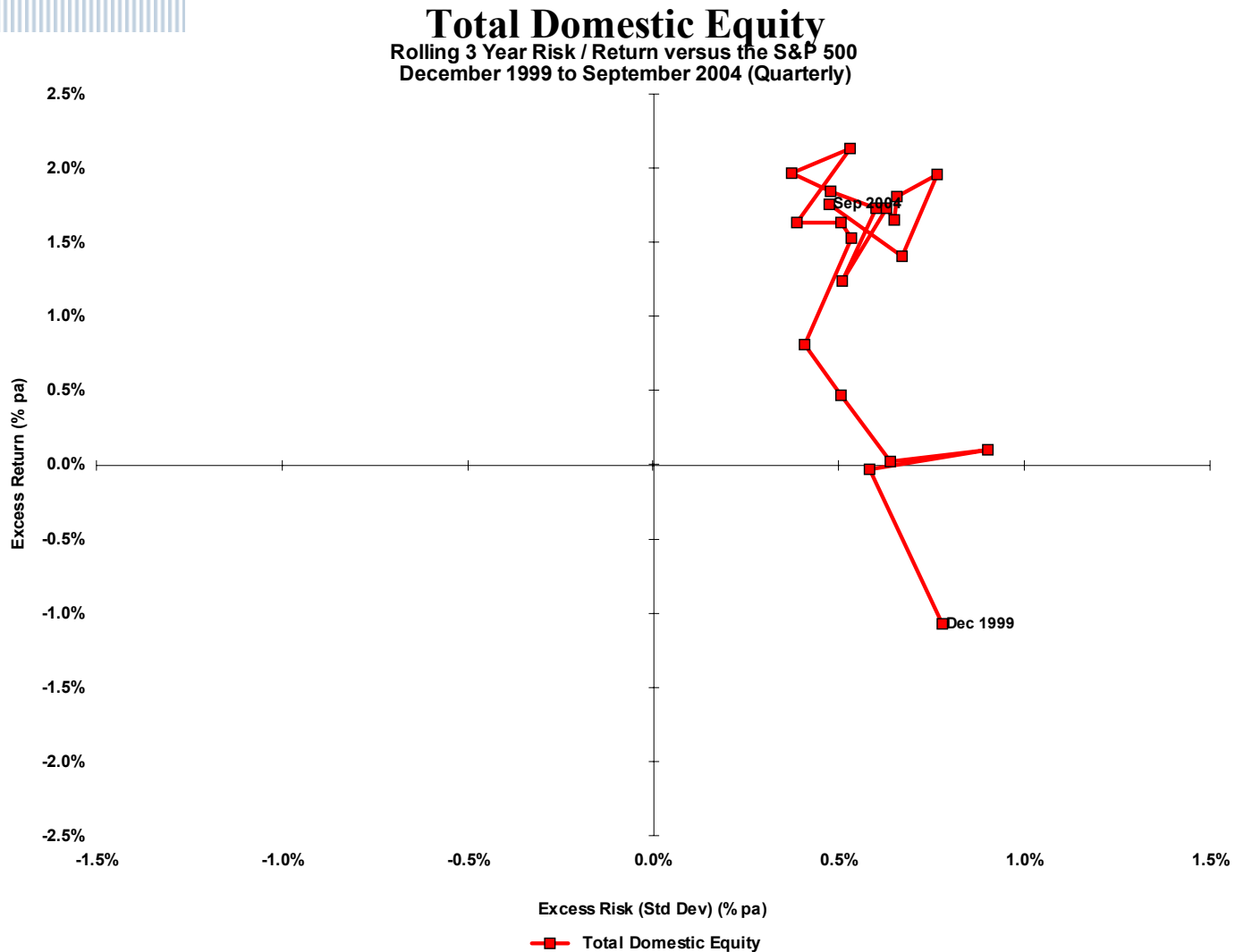
Risk/Return Analysis



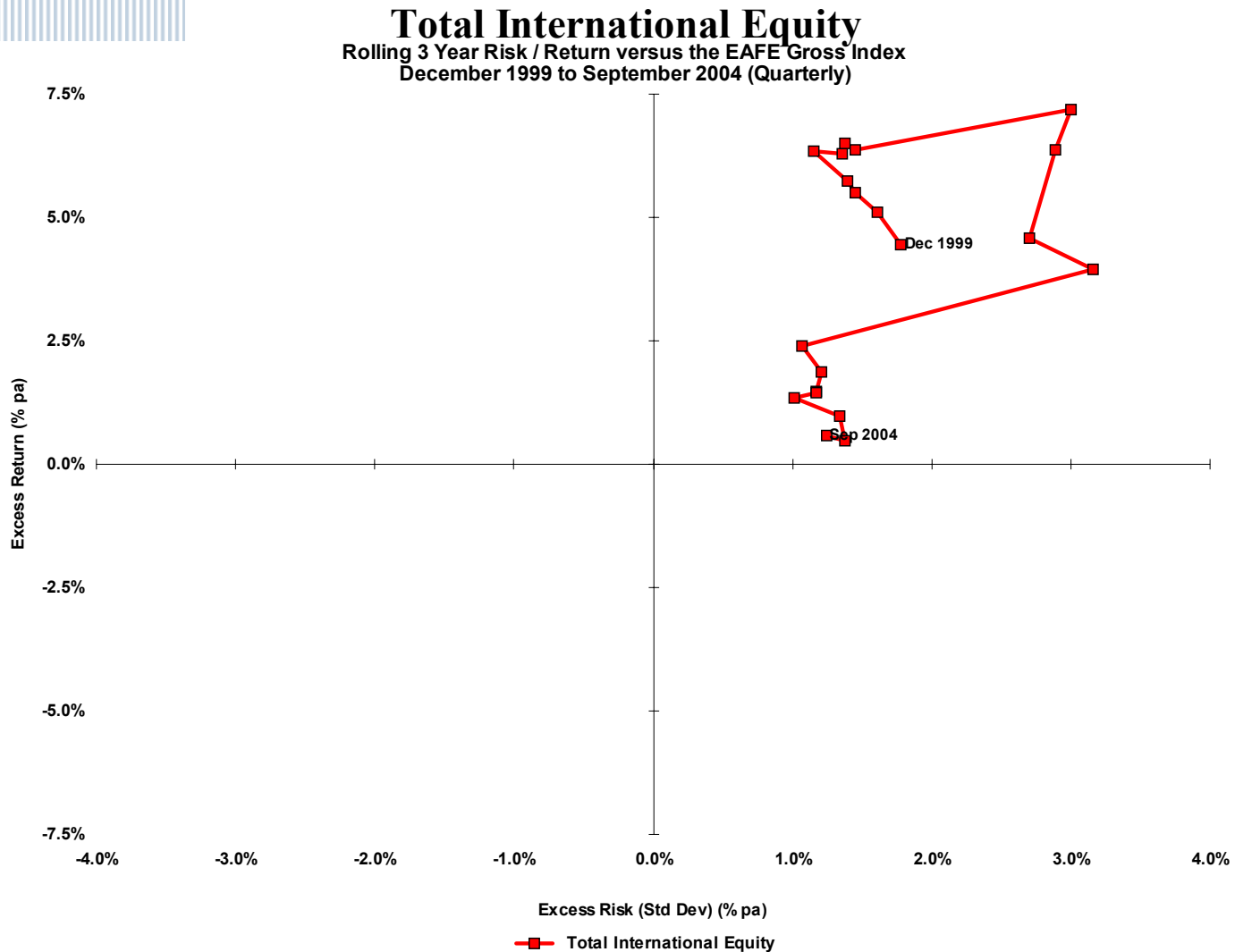
Risk/Return Analysis



Risk/Return Analysis



Risk/Return Analysis



Performance vs. Benchmarks

For the 3 Years Ending September 30, 2004

	<u>Return</u>	<u>Assumed ROR</u>	<u>Std. Dev.</u>	<u>Assumed Std. Dev.</u>
Total Fund	6.8%	7.4%	13.9%	13.4%
Benchmark*	5.9		13.2	
Domestic Fixed	5.8	4.5	4.1	6.0
LB Aggregate	5.9		4.0	
Domestic Equity	5.8	8.5	20.0	18.6
S&P 500	4.0		19.5	
Intl. Equity	10.1	8.5	22.3	21.9
EAFE	9.5		21.0	

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.

Performance vs. Benchmarks

For the 5 Years Ending September 30, 2004

	<u>Return</u>	<u>Assumed ROR</u>	<u>Std. Dev.</u>	<u>Assumed Std. Dev.</u>
Total Fund	3.0%	7.4%	13.6%	13.4%
Benchmark*	1.7		12.7	
Domestic Fixed	7.5	4.5	3.9	6.0
LB Aggregate	7.5		3.8	
Domestic Equity	0.4	8.5	19.6	18.6
S&P 500	-1.3		19.3	
Intl. Equity	2.3	8.5	22.6	21.9
EAFE	-0.5		20.9	

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.